

WHAT IS CLAIMED IS:

1. A presensitized plate composed of a support having thereon an image recording layer which includes:

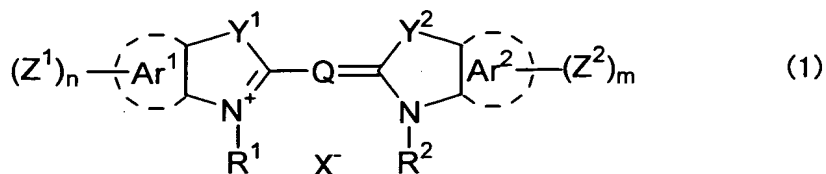
an infrared absorber (A) that is a cyanine dye having at least one fused ring composed of a nitrogen-containing heterocycle in combination with an aromatic ring or a second heterocycle, and having on the aromatic ring or second heterocycle an electron-withdrawing group or a heavy atom-containing group,

a radical generator (B), and

a radical-polymerizable compound (C),

and which is removable with printing ink and/or dampening water.

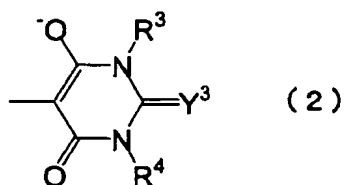
2. The presensitized plate according to claim 1, wherein the infrared absorber (A) is a compound of formula (1) below.



(In the formula, R^1 and R^2 are each independently a

hydrocarbon group of up to 20 carbons which may be substituted. Ar^1 and Ar^2 are each independently an aromatic hydrocarbon group or a heterocyclic group which may be substituted. Y^1 and Y^2 are each independently a sulfur atom, an oxygen atom, a selenium atom, a dialkylmethylene group of up to 12 carbons or a $-\text{CH}=\text{CH}-$ group. Z^1 and Z^2 are each substituents selected from the group consisting of hydrocarbon groups, oxy groups, electron-withdrawing groups and heavy atom-containing groups, at least one of Z^1 and Z^2 being an electron-withdrawing group or a heavy atom-containing group. The letters n and m each represent 0 or a higher integer, with the proviso that the sum of n and m is at least 1.

Q is a pentamethine group or a heptamethine group which may be substituted with a member selected from the group consisting of alkoxy, aryloxy, alkylthio, arylthio, dialkylamino, diarylamino, halogen atoms, alkyl, aralkyl, cycloalkyl, aryl, oxy, iminium bases and substituents of formula (2) below; or may have a cyclohexene, cyclopentene or cyclobutene ring containing three connected methine chains.



(In the formula, R³ and R⁴ are each independently a hydrogen atom, an alkyl of 1 to 8 carbons or an aryl of 6 to 10 carbons; and Y³ is an oxygen atom or a sulfur atom.)

X⁻ is a counteranion that exists in cases where charge neutralization is required.)

3. A presensitized plate composed of a support having thereon an image recording layer which includes:

an infrared absorber (A) having an oxidation potential of at most 0.45 V. (vs. SCE),

a radical generator (B), and

a radical-polymerizable compound (C),

and which is removable with printing ink and/or dampening water.

4. The presensitized plate according to claim 1, wherein the support has thereon, in order, an undercoat layer containing a compound having a polymerizable group on the molecule, and the image recording layer.

5. The presensitized plate according to claim 3, wherein the support has thereon, in order, an undercoat layer containing a compound having a polymerizable group on the molecule, and the image recording layer.

6. The presensitized plate according to claim 4, wherein the compound having a polymerizable group on the molecule also has on the molecule an ethylene oxide group.

7. The presensitized plate according to claim 5, wherein the compound having a polymerizable group on the molecule also has on the molecule an ethylene oxide group.

8. The presensitized plate according to claim 4, wherein the compound having a polymerizable group on the molecule also has on the molecule a support-adsorbable group.

9. The presensitized plate according to claim 5, wherein the compound having a polymerizable group on the molecule also has on the molecule a support-adsorbable group.

10. The presensitized plate according to claim 1, wherein at least some of the infrared absorber (A), radical generator (B) and radical-polymerizable compound (C) is microencapsulated.

11. The presensitized plate according to claim 3, wherein at least some of the infrared absorber (A), radical generator (B) and radical-polymerizable compound (C) is microencapsulated.

12. A lithographic printing method which includes the steps of imagewise exposing with an infrared laser the presensitized plate according to claim 1 which has the image recording layer that is infrared imageable, supplying an aqueous component and an oil-based ink to the exposed plate so as to remove unexposed areas of the image recording layer, and printing.

13. A lithographic printing method which includes the steps of imagewise exposing with an infrared laser the presensitized plate according to claim 3 which has the image recording layer that is infrared imageable, supplying an aqueous component and an oil-based ink to the exposed plate so as to remove unexposed areas of the image recording layer, and printing.

14. The lithographic printing method according to claim 12, wherein the presensitized plate is mounted on a printing press prior to the imagewise exposure with an infrared laser.

15. The lithographic printing method according to claim 13, wherein the presensitized plate is mounted on a printing press prior to the imagewise exposure with an infrared laser.

16. The lithographic printing method according to claim 12, wherein the presensitized plate is mounted on a printing press following imagewise exposure with an infrared laser and before the supply of aqueous components and oil-based ink.

17. The lithographic printing method according to claim 13, wherein the presensitized plate is mounted on a printing press following imagewise exposure with an infrared laser and before the supply of aqueous components and oil-based ink.